

Amendments to the Claims

Please amend the claims without prejudice. The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims

1. (Currently amended) Hydraulic braking device (10) for a turbine (2) in a drilling equipment, the said turbine (2) being provided with a turbine shaft (4),

~~characterized in that it~~ wherein the hydraulic braking device comprises at least one body (12) connected to the said turbine shaft (4),

~~and in that~~ wherein when the said hydraulic braking device (10) is immersed in a fluid medium, rotation of the turbine shaft (4) about its axis (6) causes a movement of the said at least one body (12) with respect to the said fluid medium, this movement generating a resisting torque (T) that is a function of the square of the rotation speed (ω) of the turbine shaft (4) with respect to the said fluid medium.

2. (Currently amended) Device (10) according to claim 1, ~~characterized in that it comprises~~ further comprising a braking shaft (14) coupled to the said turbine shaft (4), ~~and in that~~ the said at least one body (12) is being connected to the said braking shaft (14).

3. (Currently amended) Device (10) according to claim 2, ~~characterized in that~~ wherein the said coupling between the braking shaft (14) and the turbine shaft (4) is such that an axial rotation of the turbine shaft (4) causes axial rotation of the braking shaft (14).

4. (Currently amended) Device (10) according to ~~either of~~ claims 2 ~~or 3~~, ~~characterized in that~~ wherein the braking shaft (14) is coaxial with the turbine shaft (4).

5. (Currently amended) Device (10) according to ~~any one of~~ claims 2 ~~to 4~~, ~~characterized in that~~ wherein the braking shaft (14) and the turbine shaft (4) are combined into a single shaft.

6. (Currently amended) Device according to ~~any one of claims 2 to 4, characterized in that~~ wherein the braking shaft (14) and the turbine shaft (4) are coupled through a coupling device (50).

7. (Currently amended) Device (10) according to claim 6, ~~characterized in that~~ wherein the said coupling device (50) is a gearbox.

8. (Currently amended) Device (10) according to claim 6 ~~or 7, characterized in that~~ wherein the said coupling device (50) is a clutch.

9. (Currently amended) Device (10) according to ~~one of claims 2 to 8, characterized in that~~ wherein the said at least one body (12) is driven in rotation with the braking shaft (14) when the turbine shaft (4) rotates about its axis.

10. (Currently amended) Device (10) according to ~~any one of claims 2 to 9, characterized in that~~ wherein the said at least one body (12) is rigidly connected to the said braking shaft (14) through a connecting means (18, 20).

11. (Currently amended) Device (10) according to ~~any one of claims 2 to 10, characterized in that~~ wherein the said at least one body (12) is fixed directly onto the braking shaft (14) through a connecting means composed of at least one anchor zone (18) of the body (12).

12. (Currently amended) Device (10) according to ~~any one of claims 2 to 10, characterized in that~~ wherein the said at least one body is connected to the said braking shaft (14) through a connecting means composed of at least one rigid arm (20).

13. (Currently amended) Device (10) according to claim 11 ~~or 12, characterized in that~~ wherein the said connecting means (18, 20) has a streamlined profile.

14. (Currently amended) Device (10) according to ~~any one of~~ claims 2 ~~to~~ 13, ~~characterized in that~~ wherein when it comprises more than one body (12), the said bodies (12) are distributed around the periphery of the braking shaft (14), in a regular manner, or in a non-regular manner.

15. (Currently amended) Device (10) according to ~~any one of~~ claims 2 ~~to~~ 14, ~~characterized in that~~ wherein when it comprises more than one body (12), the said bodies (12) have either all the same axial positions along the braking shaft (14), or different axial positions along the braking shaft (14).

16. (Currently amended) Device (10) according to claim 1 ~~to~~ 15, ~~characterized in that~~ wherein when it comprises more than one body (12), the said bodies (12) are chosen to be identical or different

17. (Currently amended) Device (10) according to ~~any one of~~ claims 1 ~~to~~ 16, ~~characterized in that~~ wherein when it comprises more than one body (12), the said bodies (12) all have the same dimensions.

18. (Currently amended) Device (10) according to claim 6 ~~or~~ 7, ~~characterized in that~~ wherein the bodies may be profiled bodies or non-profiled bodies.

19. (Currently amended) Device (10) according to claim 1 ~~to~~ 18, ~~characterized in that~~ wherein it is arranged on the downstream side of the turbine (2) with respect to a flow direction of the fluid medium.

20. (Cancelled).

21. (Currently amended) Turbine (2) according to claim 20 ~~to~~ 23, ~~characterized in that~~ wherein the turbine (2) is immersed in a first fluid medium and the braking device (10) is immersed in a second fluid medium.

22. (Currently amended) Drilling equipment, ~~characterized in that it comprises~~ further comprising at least one turbine (2) equipped with a hydraulic braking device (10), according to claim 20 or 21.

23. (New) Turbine (2) comprising:

- a turbine shaft (4) and;
- a hydraulic braking device (10) comprising at least one body (12) connected to the said turbine shaft (4);

wherein when the said hydraulic braking device (10) is immersed in a fluid medium, rotation of the turbine shaft (4) about its axis (6) causes a movement of the said at least one body (12) with respect to the said fluid medium, this movement generating a resisting torque (T) that is a function of the square of the rotation speed (ω_r) of the turbine shaft (4) with respect to the said fluid medium.